

What is claimed is:

1. A master disk comprising:
a master substrate;
a layer of photosensitive material covering at least a portion of the master substrate,
the photosensitive material including a surface relief pattern in the form of a track pattern
defined by adjacent master lands and master grooves, wherein the master grooves extend
down to the master substrate, the master grooves including a master groove bottom and the
master lands including a master land top, wherein the master groove bottom is wider than the
master land top.
2. The master disk of claim 1, wherein the master groove bottom is generally
flat.
3. The master disk of claim 1, wherein the master groove bottoms are flat
relative to the master land tops.
4. The master disk of claim 1, wherein the master groove bottoms are level with
each other.
5. The master disk of claim 1, wherein the master groove bottoms are wide and
flat relative to the master land tops.
6. The master disk of claim 1, wherein the master groove bottoms include sharp
corners.
7. The master disk of claim 1, wherein the master grooves include a groove
depth which is approximate the thickness of the photosensitive material.

8. The master disk of claim 1, wherein the master grooves includes a groove depth which is greater than 50 nanometers.

9. The master disk of claim 1, wherein the track pitch is less than 425 nanometers, the width of the master groove bottom is greater than 100 nanometers.

10. The master disk of claim 9, wherein the width of the master groove bottom is greater than 250 nanometers.

11. The master disk of claim 9, wherein the groove depth is greater than 50 nanometers.

12. A disk made from a replication process which includes a master disk having a data layer formed over a master substrate, the disk comprising:

a replica substrate having a first major surface and a second major surface, the first major surface including a surface relief pattern in the form of a track pattern defined by adjacent lands and grooves, the track pattern having a track pitch less than 425 nanometers, wherein the grooves extend down into the replica substrate, the grooves including a groove bottom and the lands including a land top, wherein the land top is flat.

13. The disk of claim 12, wherein the land top has a width greater than 35% of track pitch.

14. The disk of claim 12, wherein the groove depth is greater than 50 nanometers.

15. The disk of claim 14, wherein the land width is greater than 100 nanometers.

16. The disk of claim 12, wherein the land top is smooth.

17. The disk of claim 13, further wherein the land top has sharp edges.

18. The disk of claim 12, wherein the land tops are level with each other, such that the flatness of first major surface of the replica disk is defined by master substrate flatness.

19. The disk of claim 12, wherein the land tops are level and at the same elevation relative to the second major surface.

20. A stamper comprising:
a stamper substrate having a first major surface and second major surface, the first major surface including a surface relief pattern in the form of a track pattern defined by adjacent stamper lands and stamper grooves, wherein the grooves extend down into the stamper substrate, the stamper grooves including a stamper groove bottom and the stamper lands including a stamper land top, wherein the stamper groove bottom is wider than the stamper land top.

21. The stamper of claim 20, wherein the stamper groove bottom is generally flat.

22. The stamper of claim 20, wherein the master groove bottoms are flat relative to the master land tops.

23. The stamper of claim 20, wherein the master groove bottoms are level with each other.

24. The stamper of claim 20, wherein the master groove bottoms are wide and flat relative to the master land tops.

25. The stamper of claim 20, wherein the master groove bottoms include sharp corners.

26. The stamper of claim 20, wherein the master grooves includes a groove depth which is greater than 50 nanometers.

27. The stamper of claim 20, wherein the track pitch is less than 425 nanometers, the width of the master groove bottom is greater than 100 nanometers.

28. The stamper of claim 27, wherein the width of the master groove bottom is greater than 250 nanometers.

29. The stamper of claim 27, wherein the groove depth is greater than 50 nanometers.